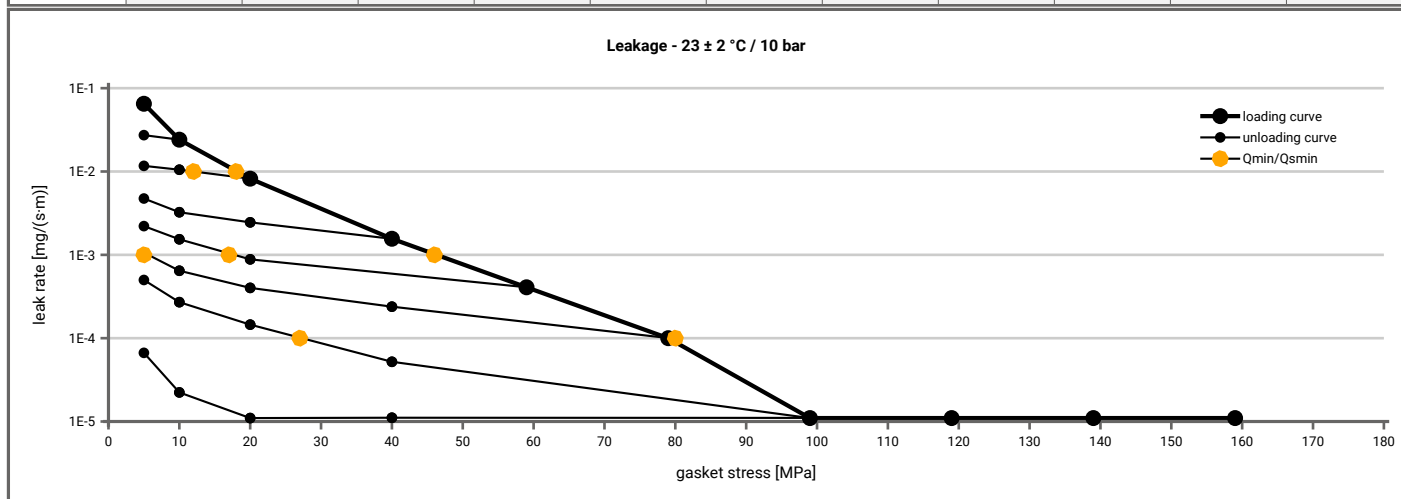
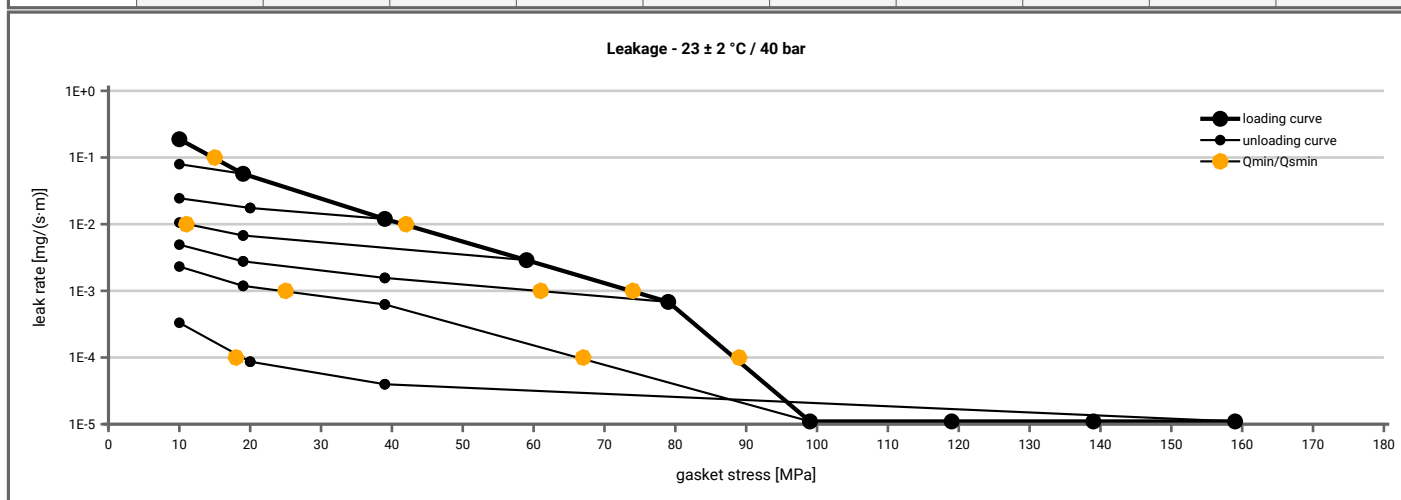


Manufacturer address	KLINGER GmbH, Richard Klinger Str. 37, 65510 Idstein, DE	According to DIN EN 13555 2005-2
Product name	KLINGER® Graphite Laminate PSM200B	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 10$ bar ($T = 23 \pm 2$ °C)											
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]									
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]	$Q_A = 100$ [MPa]	$Q_A = 120$ [MPa]	$Q_A = 140$ [MPa]	$Q_A = 160$ [MPa]
1E-0	5		5	5	5	5	5	5			5
1E-1	5		5	5	5	5	5	5			5
1E-2	18			12	5	5	5	5			5
1E-3	47					18	6	5			5
1E-4	80							27			5
1E-5											
1E-6											
1E-7											
1E-8											



Minimum stress to seal $Q_{\min(L)}$ (at assembly), $Q_{s\min(L)}$ (after off-loading) for p = 40 bar (T = 23 ± 2 °C)										
L [mg/(s·m)]	$Q_{\min(L)}$ [MPa]	$Q_{s\min(L)}$ [MPa]								
		$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]	$Q_A = 100$ [MPa]	$Q_A = 120$ [MPa]	$Q_A = 140$ [MPa]	$Q_A = 160$ [MPa]
1E-0	10		10	10	10	10	10			10
1E-1	15		10	10	10	10	10			10
1E-2	42				11	10	10			10
1E-3	75					61	25			10
1E-4	89						67			19
1E-5										
1E-6										
1E-7										
1E-8										

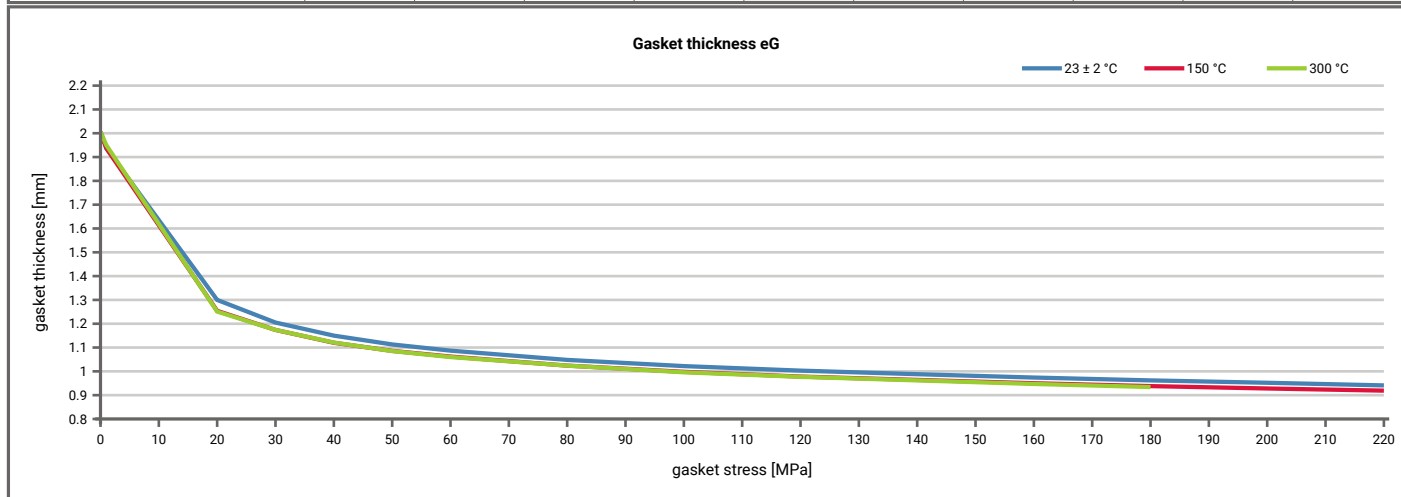


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: 1	Creation date of this sheet: 2012-03-28
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Manufacturer address	KLINGER GmbH, Richard Klinger Str. 37, 65510 Idstein, DE	According to DIN EN 13555 2005-2
Product name	KLINGER® Graphite Laminate PSM200B	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Relaxation ratio P_{QR} for stiffness $C = 500$ [kN/mm]										
Gasket stress	23 ± 2 °C		Temperature 1 [150 °C]		Temperature 2 [300 °C]					
	P_{QR}	Δe_{Gc} [μm]	P_{QR}	Δe_{Gc} [μm]	P_{QR}	Δe_{Gc} [μm]	P_{QR}	Δe_{Gc} [μm]	P_{QR}	Δe_{Gc} [μm]
Stress level 1 [30 MPa]	0.98	5	0.93	18	0.92	21				
Stress level 2 [50 MPa]	0.99	4	0.96	17	0.94	25				
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	0.99	18	0.97	45				
Q_{smax}	220 MPa		220 MPa		180 MPa					

Sekant unloading modulus of the gasket E _G [MPa] and gasket thickness e _G [mm]										
Gasket stress [MPa]	23 ± 2 °C		Temperature 1 [150 °C]		Temperature 2 [300 °C]					
	E _G [MPa]	e _G [mm]	E _G [MPa]	e _G [mm]	E _G [MPa]	e _G [mm]	E _G [MPa]	e _G [mm]	E _G [MPa]	e _G [mm]
0	0	2.006	0	2.006	0	2.006				
1	0	1.937	0	1.937	0	1.950				
20	497	1.300	533	1.254	588	1.251				
30	800	1.205	786	1.174	749	1.174				
40	1166	1.150	1070	1.120	1078	1.121				
50	1536	1.113	1478	1.086	1422	1.085				
60	2039	1.087	1983	1.062	1690	1.060				
80	2664	1.048	2747	1.024	2621	1.024				
100	3415	1.022	3361	0.998	2848	0.996				
120	4043	1.003	3911	0.978	4056	0.977				
140	5091	0.988	4992	0.964	4940	0.962				
160	5268	0.974	5490	0.950	5238	0.947				
180	5601	0.962	5795	0.938	5246	0.934				
200	5967	0.952	5869	0.928						
220	6102	0.941	6658	0.919						



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